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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,198	10/26/2001	Ronald E. Gilbert	PY2-023	4193
21567	7590	02/28/2006	EXAMINER	
WELLS ST. JOHN P.S.			NGUYEN, NINH H	
601 W. FIRST AVENUE, SUITE 1300			ART UNIT	PAPER NUMBER
SPOKANE, WA 99201			3745	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,198

Applicant(s)

GILBERT ET AL.

Examiner

Ninh H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 4 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,11,12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 9,10 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2001 and 08 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/02/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

The original application comprises claims 1-4. The first Non-Final Office Action on this application was mailed 05/07/2003. However, Applicant has never received the Office Action for unknown reasons. Assuming the Application had not been examined, Applicant filed an amendment on 01/02/04 to add new claims 5-15 to the application. The examiner had no knowledge of this amendment. Until Applicant was contacted to verify abandonment of the application did he become aware that a reply to the first Office Action was long overdue. Applicant petitioned to withdraw holding of abandonment based on ground that he has never received the first Office Action on 02/04/2004. The petition was dismissed and the application was held abandoned on 05/11/2005. Applicant petitioned for withdrawal of abandonment again, and the petition was finally granted on 08/02/2005. The application was subsequently revived and a copy of the Office Action of 05/07/2003, which only addresses claims 1-4, was re-send to Applicant. On 12/08/2005, Applicant filed an amendment to the Office Action listing claims 1-15 as pending and traversing the rejections of claims 1-4. To set the records straight, this Office Action will address pending claims 1-15. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Goodwin (4,650,342).

Goodwin discloses pump system (Figs. 1, 2) comprising a pump framework 10; a pump motor mounted on the pump framework (top of Fig. 1); a pump base attached to the pump framework (bottom of Fig. 2), the pump base including an impeller aperture (Fig. 2) with interior walls; an impeller shaft 11 attached to the pump motor; an impeller body 12 attached to the impeller shaft and at least partially within the impeller aperture in the pump base, the impeller body comprising: a center portion with a shaft aperture therein (Fig. 2); a plurality of vanes 13 extending outward from the center portion, each vane including a radially outward end (see marked up Fig. 2 at the end of this Office Action), an input side, and an output side; and wherein a particle relief passageway (see marked up Fig. 2) is defined between the radially outward end of the plurality of vanes on the impeller and the interior walls of the impeller aperture, the particle relief passageway being a predetermined size to allow particles of a predetermined size to pass between the plurality of vanes and the interior walls of the impeller aperture of the pump base (the pump is pumping solid entrained liquid col. 1, line 65-col. 2, line 13).

3. Claims 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilbert (5,634,770).

Gilbert discloses a molten metal pump impeller system (Figs. 4, 9) comprising: an impeller body comprising: a center portion with a shaft aperture therein (Fig. 9); a plurality of

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vanes 290 extending outward from the center portion, each vane including a radially inward end, a radially outward end, an input side (top of vane 290 in Fig. 9), an output side (bottom of vane 290 in Fig. 9), a leading surface (concave surface; Fig. 9), a trailing surface (opposite to the concave surface), a vane width between the leading surface and the trailing surface; and wherein the vane width is tapered from the input side to the output side (shown at edge 293 of Fig. 9);

wherein the impeller system further comprising an annular base at the output side of the plurality of vanes (Fig. 9);

wherein the entire vane width is tapered from the input side to the annular base (Fig. 9);
and

wherein the input side is the vertically upward side (Fig. 2).

4. Claims 11-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (2, 294,135).

Smith discloses a pump impeller system (Figs. 1-4) comprising: an impeller body comprising: a center portion with a shaft aperture therein (Fig. 2); a plurality of vanes 66 extending outward from the center portion, each vane including a radially inward end (near the shaft aperture; Fig. 4), a radially outward end (at the outer periphery of impeller; Fig. 4), an input side (at the bottom of impeller; Fig. 4), an output side (near the top of the impeller; Fig. 4), a leading surface (convex side of vane; Fig. 2), a trailing surface (concave side of vane), a vane width between the leading surface and the trailing surface; and wherein the leading surface is convex; an annular base at the output side of the plurality of vanes (Fig. 3); and

wherein the plurality of vanes are tapered at the input side from the radially inward end to the radially outward end, thereby creating a shoulder (Fig. 3; from the protrusion 64 to the radially outer end of a vane) on the radially outward end of the plurality of vanes.

5. Claims 11, 12, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Lehman (6,468,039).

Lehman discloses a pump impeller system (Figs. 1, 2) comprising: an impeller body comprising: a center portion with a shaft aperture 48 therein (Fig. 2); a plurality of vanes 46 extending outward from the center portion, each vane including a radially inward end (near the shaft aperture; Fig. 2), a radially outward end (at the outer periphery of impeller; Fig. 2), an input side (at the top of impeller; Fig. 2), an output side (near the bottom of the impeller; Fig. 2), a leading surface (convex side of vane; Fig. 2), a trailing surface (concave side of vane), a vane width between the leading surface and the trailing surface; and wherein the leading surface is convex; an annular base 50 at the output side of the plurality of vanes (Fig. 2); and wherein the input side is the vertically upward side (Fig. 2).

Allowable Subject Matter

6. Claims 3 and 4, due to the limitation of the plurality of vanes being tapered at the input side to from the radially inward end to the radially outward end, thereby to create a shoulder; and the particle relief passage of a predetermined size to allow a predetermine sized particle to pass through, are allowed.

7.

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8. Claims 9, 10, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

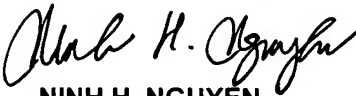
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).


NINH H. NGUYEN
PRIMARY EXAMINER

Nhn
February 22, 2006

Fig. 2.

